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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/973,261	10/09/2001	Eric Gustave Lundquist	A01064	6194

7590

12/02/2003

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EXAMINER

LU, C CAIXIA

ART UNIT	PAPER NUMBER
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1713

DATE MAILED: 12/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/973,261

Applicant(s)

LUNDQUIST ET AL.

Examiner

Caixia Lu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 and 22-51 is/are pending in the application.
- 4a) Of the above claim(s) 27-51 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 9-16 and 22-26 is/are rejected.
- 7) ☒ Claim(s) 5 and 25 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

The newly submitted IDS filed on October 2, 2003 has facilitated the art rejection as shown below.

Claim Objections

1. Claims objected to because of the following informalities:
 - (i) Claim 5, lines 3-4, "bis(pentamethylcyclo[[-]]pentadienyl)zirconium" should be replaced with -- bis(pentamethylcyclopentadienyl)zirconium--.
 - (ii) Claim 25, the subscript and superscript in the formulas of lines 2-4 and 6 are ill formatted.

Appropriate correction is required.

Applicants are also advised to cancel claim 42 in the event of rejoining the restricted process claims with the catalyst claims for allowance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
3. Claims 22-25 provides for the use of catalyst composition, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claims 22-25 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper

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definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Applicants are advised to either to cancel those claims or amend them as process claims.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-4, 6, 14, 15 and 21 rejected under 35 U.S.C. 102(b) as being anticipated by Baukova et al. (Abstract of *Metalloorganicheskaya Khimiya*, 1992, 5(6), 1386-90).

The abstract of Baukova teaches a polymer bonded to Cp_2Zr fragment prepared by the reaction of polybutadiene with Cp_2ZrH_2 or $\text{Cp}_2\text{Zr}(\text{Cl})\text{H}$. Baukova's teaching encompasses the instant claims.

Applicants are requested to provide a translated copy of Baukova et al. which is likely to facilitate further rejections.

6. Claims 1-3, 9-15 and 21 rejected under 35 U.S.C. 102(b) as being anticipated by Matisons et al. (Abstract, *Book of Abstracts*, 218th ACS National Meeting, Aug. 22-26 (1999), INOR-423, XP009013883).

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Matisons teaches a supported metallocenes for olefin polymerization prepared by reacting silica with a vinylsilane followed by a reaction with a hydrozirconocene.

Matisons teaching encompasses the instant claims.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 16 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matisons et al. (Abstract, *Book of Abstracts*, 218th ACS National Meeting, Aug. 22-26 (1999), INOR-423, XP009013883).

The instant claims further limit the supported catalyst system to further comprised at least one additional catalyst component and the olefin-based support material having particle diameters ranging from 5nm to 1000 μ m.

While Matisons does not expressly teach the supported catalyst composition to further comprise additional catalyst, it is a common practice in the art of polyolefin preparation to use two or more catalysts to provide a olefin polymer with broad molecular weight distribution. Thus, it would have been obvious to a skilled artisan at the time the invention was made to add an additional catalyst to Matisons's catalyst composition to provide a catalyst composition which can provide polyolefins with broad molecular weight distribution.

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Although Matisons does not teach the size of the silica, one would have expected that the size of Matisons's silica to be in the claimed range since those range is very broad and most commercially available silica have sizes in the claimed range. Thus, it would have been obvious to a skilled artisan at the time the invention was made to employ Matisons's teaching to use a silica having particle diameters ranging from 5nm to 1000 μ m to provide a catalyst composition because those silica are readily available.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Caixia Lu whose telephone number is (703) 306-3434. The examiner can normally be reached on 9:00 a.m. to 3:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (703) 308-2450. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1193.



Caixia Lu, Ph. D.
Primary Examiner
Art Unit 1713
November 25, 2003